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CASE REPORT

Rectal impalement by pirate ship: A case report

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Traumatic impalement is an exceptional cause of anorectal injury in the child.

We believe this is the first reported case of a self induced rectal impalement in a child by a toy ship.[1—23]

Case

An 8-year-old boy presented to our Emergency Department with sudden abdominal pain after a fall in a bath. The child could or would not report what had happened. At presentation the patient had normal vital signs. Examination of the abdomen showed no bruising, but there was tenderness in the lower abdomen. Inspection of the anorectum revealed a superficial perianal abrasion. Digital examination was not performed.

The parents mentioned that the child had insisted on being alone in the bathroom while he was playing with his pirate ship. After the fall the father had noticed that a piece of the mast was missing. (Fig. 1).

Plain radiological evaluation supplemented with CT scan revealed a foreign object in the rectum perforating the anterior wall of the rectum just dorsal of the bladder (Fig. 2).

The patient was prepared for emergency surgery. At laparotomy an extra-peritoneal perforation of the rectum was found with a wound track from the rectum through the extra-peritoneal fat dorsal to the bladder and eventually perforating the peritoneum at the top of the bladder. The wound track contained the missing piece of the mast (Figs. 3 and 4).

Inspection of the anal sphincter revealed no lesions. The object was removed and a diverting open loop colostomy was performed. The wound track was irrigated and debridement was performed. The postoperative period was uneventful and the patient was discharged after 7 days. After 6 months the colostomy was closed uneventfully.

Discussion

Impalement dates from the middle ages when it was used as a mean of executing criminals by introducing a long, thin sharp pole through the anus.[6,8,19]

Now days impalement injuries are rare. Most reported mechanisms are a fall from height,[4,5,6,7,10,21,22] gunshot injuries, stab wounds, sexual abuse, unusual sexual acts and iatrogenic injury (endoscopy, thermometers, etc.).[1,8,9,14,15,18,20] The self-introduction of foreign bodies into the rectum is however, not rare, although fortunately this seldom results in a perforation. The most striking report noted in the literature of self induced rectal perforation involved a 50-year-old man who inserted a live eel in his rectum to relieve constipation. Unfortunally the eel ate its way through the rectum.[12]

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Figure 1 Involved toy ship.

In this case the patient was experimenting with his toy ship and after slipping in the bathtub it perforated the rectum. The trauma mechanism was viewed with sceptism. However, after a combined evaluation with the paediatrician the trauma mechanism was verified. Literature on the development of children does mention sexual experimentation at this age.[4]

The severity of the injury after impalement is difficult to estimate because the wound is often small. Diagnostic procedures include perineal examination, and if possible digital examination. In our case the emotional status of the patient permitted no digital examination. Furthermore, a radiological examination should be performed. Plain X-rays may reveal free intra-abdominal gas confirming a perforation, however they give no information about the intra-abdominal lesions. Therefore, a CT scan is advisable.

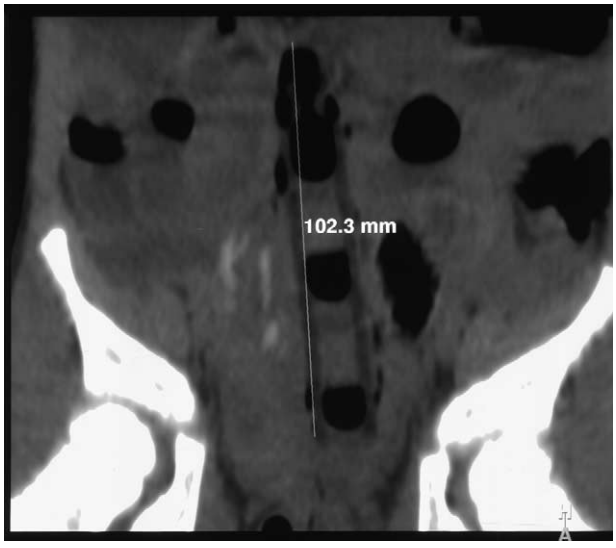

Figure 2 CT scan in frontal plane with the piece of the mast indicated.

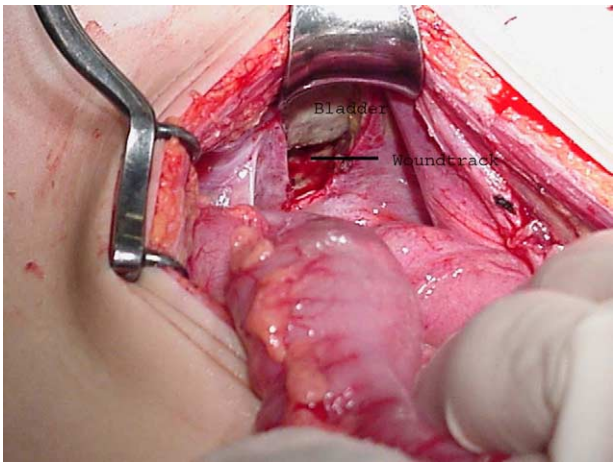

Figure 3 Woundtrack just dorsal of the bladder.

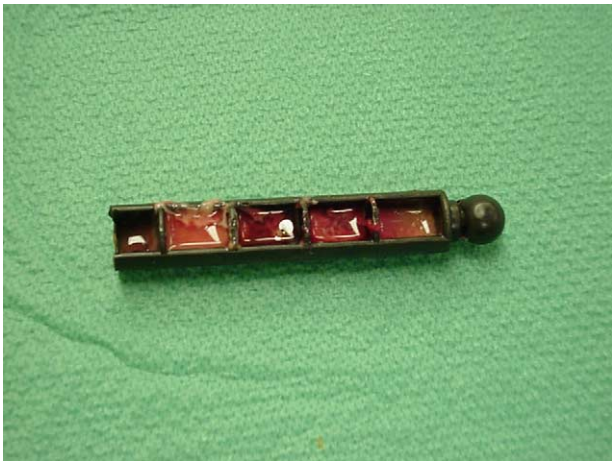

Figure 4 Missing piece of the mast after removal.

Untreated, rectal injuries have a mortality of nearly 80%.[4,5,6,19] The injury is best managed with prompt operation, irrigation of the wound track and distal colon and a diverting colostomy which is closed after several months. Depending on the trauma to operation interval and thus the inflammation, antibiotics are used for a short or longer period. A second look laparotomy is only indicated with general peritonitis.[3,5,11,16,19,22]

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